REF 7/c

Year XVI November, 1942 No. 11

INTERNATIONAL INSTITUTE OF AGRICULTURE

INTERNATIONAL BULLETIN OF PLANT PROTECTION

PUBLISHED MONTHLY

REPRINT FROM THE 'INTERNATIONAL REVIEW OF AGRICULTURE'

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IMPERIAL MYCOLOGICAL INSTITUTE 3 APR 1943

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ROME — PRINTING OFFICE CARLO COLOMBO.

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The hour of broadcasts is Central European Time, which is one hour ahead of Greenwich Mean Time and 5 hours ahead of Eastern Standard Time in the United States.

ACTIVITY OF THE INTERNATIONAL INSTITUTE OF AGRICULTURE

Permanent Committee of the Institute. — The Autumn Session of the Permanent Committee opened on October 10, 1942. Baron G. Acerbo, Italian Delegate and President of the Institute, presided. Twenty two adhering States were represented at the meeting. The President communicated to the Committee the new official adhesion of Albania and the appointment of the new Delegates of Japan and Romania. All the administrative and scientific problems interesting the Institute were then taken up and discussed. The Permanent Committee took note with satisfaction of the full efficiency of the Institute Services, which, notwistanding present difficulties, continue their work and issue their publications regularly.

The International Institute of Agriculture, on the occasion of Mr. Bilbao's twenty fifth anniversary as delegate of Spain in the Permanent Committee, expressed to him its admiration and its deep gratitude in a parchment signed by his colleagues of the Committee, the Head of the Administration and the heads of services.

The President, Vice-President and the Secretary General of the Institute addressed their best wishes to Mr. Bilbao, who replied expressing his thanks and associating his Country to the homage made to him.

The activity of the International Forestry Center. — In one of our next chronicles a summary will be given of the scientific works of the International Forestry Center in the course of these latest months. As always before, the activity of the Center was consecrated, first of all, to its publications, and especially to its Review " Intersylva " (which is issued regularly every three months in French and German), its series of monographs " Silvae Orbis " of which the 6th number has recently appeared, and to the series ' Bibliographia Forestalis " of which the first volume dealing with the year 1941, has also been recently published.

An important event of this last period has been the VIth Session of the Committee of the International Forestry Center, which was held at Vienna on September 8 to 12, 1942. The following 15 Member States were represented: Germany, Bulgaria, Croatia, Denmark, Spain, Finland, France, Hungary, Italy, the Netherlands, Romania, Slovakia, Sweden, Switzerland and Turkey. The session was opened in the Gauhaus (ancient Parliament) under the chairmanship of the President of the Center, Baron Kelemen de Waldbott.

On this occasion, the Vice-President of the C. I. S. Generalforstmeister Secretary of State Alpers, greeted foreign delegates in the name of the Government of the Reich. In the first part of the session, questions concerning the technique of the work and the organisation of the International Forestry Center were discussed. The Director, Professor Dr. Köstler, presented a report on the recent activity of the C. I. S. As a particularly important result of the decisions that were adopted, must be mentioned the foundation, by a unanimous vote, of the « Comité international d'utilisation du bois '. Professor Martti Levon, Rector of the Helsinki Polythecnic was elected President, and Professor Kollmann, Director of the Reich Institute of forestry researches at Eberswalde, was elected Vice-President of the new organisation. On the same occasion were designated the ordinary members of the Committee for the following countries: Germany, Croatia, Denmark, Finland, France, Italy, Hungary, Sweden, Switzerland. It may be expected that, very shortly, will be chosen also the experts for other countries. The tasks of this Committee, created within the field of activity of the International Forestry Center, are, before all, the study of the questions dealing with the technological utilisation of wood and the exchange of information on the results obtained on wood administration, economy and science. Moreover, the Committee will act as a consultation organ of the International Forestry Center in the domain of the technological utilisation of wood. The seat of the « Comité International d'utilisation du bois » will be at Berlin, at the International Forestry Center's, which, as far as possible, will put at the disposal of the " Comité " its technical means of action. Another very important result was the decision to create scientific bases for the setting up of wood balances in the different countries and in the large forestry territories. The International Forestry Center will take the necessary steps to come to an agreement with the Governments of the different countries for the putting into effect of this decision in order to assemble and elaborate all the documentary material dealing with this question. All necessary measures for this purpose have already been taken.

After the meetings, two survey excursions were made on the 10th and 11th September. The first had as its goal the visit to the forests of protection of the high mountain springs that feed the first water pipe (Hochquellenwasserleitung) of Vienna, and especially the forestry district of Nasswald. The second was dedicated to the forestry district of Nasswald. The second was dedicated to the forestry economy of the Vienna Forest (Reichgau Bas-Danube). On this occasion, the guests were taken also into the territory of the nearby black pine forest, where their attention was especially called on the tapping of the trees.

INTERNATIONAL BULLETIN
OF PLANT PROTECTION

1942 No. 11

DISCOVERIES AND CURRENT EVENTS *

ITALY.

Animal Parasites of Cotton †

The cultivation of cotton, introduced into Italy by the Arabs round about 850, attained its maximum extent (hundred thousand hectares) during the Continental System and the American War of Secession; subsequently outside competition and the want of technical improvements led to a decline in this crop which remained restricted to Sicily, chiefly in the Gela Plain, Province of Caltanisetta and the coastal zone of Sciacca, Agrigento Province. Cultivation started to revive in 1935 because of the sanctions. In 1941, approximately 65,000 hectares were grown to cotton in Sicily and about 15,000 in Southern Italy.

In the absence, in general, of a rational cultivation technique and pest control, the crops do not give the unit production which the environmental conditions would make it possible to obtain.

In this communication I report the results of the research work and observations effected in 1941 in the different Italian cotton-growing regions.

I. Animal parasites:—

(a) *Armadillidium cinereum* and *A. badium* (Crustacea). Harmful to young plants, the roots and collar of which are gnawed.

(b) *Tetranychus telarius* (Acarina). Harmful to crops, causing red patches. Often brings about defoliation of the plants.

(c) *Thrips tabaci* (Thysanoptera). Punctures leaves causing the formation of lineal marks of a silver-grecy or lead colour along the nervures on the under surface. This coloration may spread to almost the entire limb. The Stoneville variety is very susceptible to attack by this insect, the continuation of which is facilitated by the abundant crop trash left on the field.

* Under this and the next heading the countries are arranged in French alphabetical order.

† Communication from Prof. GIUSEPPE RUSSO, Director of the University Institute of Agricultural Entomology and Director of the Phytopathological Observatory (Entomological Section), Pisa, Italy.

(d) *Nezara viridula, Carpocoris purpureipennis, Dolycoris baccarum* and *Spilostethus pandurus* (Hemiptera). Harmful because of punctures to the unripe bolls in which they suck they seed, frequently causing non-formation.

(e) *Empoasca decedens, E. decipiens* and *E. libyca.* Puncture the leaves causing first yellowing in patches on the under surface (July-August) and subsequently reddening on the upper surface followed by defoliation. The *Empoasca* are very harmful especially when the plants have a luxuriant growth as is the case in fresh soil, the use of nitrogenous fertilizers and with closely grown, irrigated crops. The median and basilar leaves are the most attacked. The Acala variety is affected very severely under these conditions; the Stoneville variety less so, and the Biancavilla and Biancorizzo varieties still less. *E. decedens* is the most commonly found species; the other two are observed somewhat rarely.

(f) *Bemisia tabaci.* Harmful in the larval state chiefly to the leaves at the apex of the plant, causing by its punctures, punctiform patches yellow in colour on the under surface and dark red on the upper surface. When in large numbers the excrement bring about the development of sooty blotch. This insect is always more harmful to irrigated crops, especially if the plants are not properly spaced.

(g) *Aphis* (*Doralis*) *frangulae.* Noxious in its different forms and stages, especially to crops with luxuriant vegetation, causing the curling of the shoots and shrivelling of the young leaves. If in large numbers, it promotes the development of sooty blotch. Moist atmosphere favours their development. The damage is nearly always appreciable, particularly if timely control measures are not taken. Among its most common predators, I observed the beetles *Coccinella 7-punctata, Adalia bipunctata, Subcocinella 24-punctata,* the lace-wing *Chrysopa carnea* (=*C. vulgaris*) and the fly *Xanthandrus comtus.*

(h) *Agrotis segetum* (Lepidoptera). The caterpillars are harmful in cool zones to young plants, the roots or basal part of the tigella of which may be gnawn, causing wilting followed by the dying-off the plant.

(i) *Heliothis armigera.* The caterpillars attack the flowers, the young bolls—causing shedding— and the older bolls, eating the seed, particularly in fields situated in the neighbourhood of gardens.

(j) *Caradrina exigua.* Its caterpillars can cause damage to crops by eating the leaves.

(k) *Earias insulana.* The caterpillars injure the young shoots through boring, or the squares or young bolls inducing shedding, or the more fully grown bolls, consuming the seeds.

(l) *Crocidosema plebeiana.* The caterpillars of this species tunnel the shoots and gnaw the young bolls.

(m) *Platyedra gossypiella.* The pink bollworm which is the most noxious insect pest of cotton. The caterpillars devour the seeds, check the development of the lint and are an indirect cause of modification of the fibre through the second-

ary action of bacteria and fungi. In infested zones, 25-50 per cent. of the crop is damaged. The introduction of the pink bollworm is relatively recent (1925) and is due to the negligence of an experimenter with non-disinfected seed of the Acala variety. Cotton-growers encourage their multiplication by letting infested bolls remain on the fields. The absence of wire netting in the windows of private storehouses as also of the warehouses of the provincial agricultural associations favour the spread of this moth. The caterpillars of the pink bollworm are parasitized by a species of Hymenoptera, *Pimpla roborator*, to the extent of 3 to 5 per cent. In view of its importance in the biological control of *Pl. gossypiella*, the study of its natural enemies will be continued.

(n) *Pentodon punctatus* (Coleoptera). Injurious in the adult stage to young plants, chiefly the collar being eroded.

(o) *Agriotes lineatus*. Harmful in the larval stage, destroying the cotyledons of the planted seed, the young tap-root and the part of the tigella in the ground thus causing, particularly in fresh and moist soils, an appreciable thinning out of the crop making re-sowing frequent with all its consequences.

II. Reddening of leaves.

This is a serious pathological manifestation of cotton crops in Italy which greatly injures growth and affects yield. According to the studies and observations I have made in various regions of the country, distinction should be made between the different manifestations of reddening due to different causes and the disorder should be considered as an unique pathological manifestation. The following forms may be distinguished.

(a) Marginal reddening of the leaf, always occuring on both surfaces of the leaf and of a purple red colour. This reddening is generally limited to the marginal part of the leaf, but may also subsequently spread over the entire leaf. It may be considered as being of physiological nature and due to excessive moisture of ground situated in a humid zone or given numerous irrigations, especially in soils to which nitrogenous fertilizer has been applied. The leaves at the base and the middle are those most affected.

(b) Reddening in patches all over the upper surface of the leaves, light red in colour and corresponding to a yellowing of the under surface due to the punctures of larvae, nymphs and adults of *Empoasca decedens*, *E. decipiens* and *E. libyca*. The patches are irregular and more or less extensive and lying between the main nervures, which remain green as well as the part of the lamina which borders them. The leaves of the middle part of the part are those chiefly affected, the leaves of the lower part less so, and the terminal leaves but rarely. The punctures of *Empoasca*, as also those of other leaf-sucking insects and of *Tetranychus* induce the disappearance of the chlorophyll; the plant reacts by forming anthocyanin pigments which give the red colour to the leaves. According to the degree of the disorder, the leaves reduce or cease their chlorophyll function and the result is that the plants do not develop normally, lose their leaves, causing shedding of the squares and the young bolls. The bolls left on the plant

do not attain full maturity and the seeds do not ripen (making them unsuitable for planting) and the fibre is shorter and weaker. Cotton crops in humid zones or where irrigation is excessive are severely attacked by *Empoasca* spp. In general, marginal and patch reddening occur contemporarily.

(c) Reddening in patches at the base of the principal nervures and corresponding to a yellowing of the lower surface, due to colonies of *Tetranychus telarius*. Subsequently the reddened surfaces that, in the case of heavy infestation, are also observed on the rest of the leaf become greyish yellow, the leaves wither and die.

(d) Punctiform reddening on the upper surface of the leaves, violaceous in colour and corresponding to yellow patches on the under surface, due to punctures of *Bemisia tabaci* and other Hemiptera (*Calocoris* spp.).

This reddening is observed chiefly on the leaves of the young stem.

III. The Acala variety is not suitable for humid soils, the plants being subject to physiological reddening and severe infestation of *Empoasca*, with reddening in corresponding patches. In such an environment, the Stoneville variety is better adapted and even more so the Biancorizzo and Biancavilla varieties which have a greater resistance to reddening and *Empoasca*. For its qualities of adaptation, earliness, resistance to parasites, I consider that the Biancavilla cotton should not only be maintained pure but also improved by selection and hybridization, until a variety is created which meets Italian conditions better. In my opinion, the disappearence of this variety would be a great mistake.

IV. The chief problems in Italian cotton-growing are:—

(*a*) Obtaining of early varieties, adapted to our ecological conditions, with fibre having the qualities required by the cotton industry; (*b*) cultivation technique; (*c*) control of parasites which affect yield appreciably. In consequence of the direct or indirect damage caused by insects, the Italian cotton production is reduced by 30 to 50 per cent. and even more in some zones. Calculating the value of raw cotton at 500 lire per quintal, the loss caused by insects would be approximately 40 million lire (1/3 of the crop).

V. The cultivation technique today in the different cotton-growing regions is, in most cases, not rational, thus lowering greatly the unit yield.

VI. With an appropriate cultivation technique, namely, thorough preparatory working of the soil, careful breaking up of the soil and weeding, choice of seed (from the first crop), windbreaks (in windy zones), thinning out, topping as well as by a timely and rapid control of parasites, cotton-growing could assert itself in many parts of Sicily and the different littoral zones of Southern Italy (Calabria – particularly the Ionian zone – Lucania, Apulia, Campania), even after the war as proved by the yields obtained of 18 to 20 quintals (and up to 28 quintals in Sicily) raw cotton per hectare and this with great agricultural, economic and social advantages. In this way, with the splitting up of the Sicilian

latifundia into farms, the cultivation of cotton would have the great advantage of spreading out the working days of the peasants in fact, cotton requires, because of its biological cycle, attention during the summer (summer weeding), namely, during the period when all work for ordinary herbaceous crops, such as beans, wheat, forage plants, is finished.

VII. I consider the establishment of demonstration fields in each province of the cotton-growing regions advantageous. They should be entrusted to technicians really competent and keen on cotton cultivation and the land. These fields will enable farmers to see for themselves (from sowing to harvesting) that in suitable zones, cotton cultivated in accordance with a proper technique and the timely use of control measures against parasites, is an ameliorative and profitable crop.

VIII. Control measures.

The following are the measures to be adopted:—

(1) For insects with a buccal sucking apparatus (aphids, *Empoasca*, *Bemisia*), sprays containing nicotine (nicotine sulphate, ' Monital ') or dusts of crude sulphur mixed with 5 per cent. pyrethrum or rotenon powder should be employed. The treatments should be carried out opportunely under the supervision of an entomologist. Control operations, as regards application, should be organized by the provincial textile branches in collaboration with the Royal Phytopathological Observatories.

(2) For the control of the pink bollworm (*Platyedra*), the farmers will have to be constrained by Ministerial Decree to collect contemporarily the healthy and the infested bolls; the latter to be burned or consigned to the Cotton Pool to be disinfected. The Textile Branches should pay a good price in order to induce the growers to take a proper interest in harvesting as, in general, they are unwilling to follow this useful practice because they are unaware of the harm they do to themselves in leaving infested bolls on the field. Without careful collecting of the infested bolls, the disinfection of the seed at the gin-house is useless. In fact, it has been observed that cottonseed (from zones infested by *Platyedra*) from the pool warehouses and intended for sowing are infested to the extent of 5-10 °/₀₀. The fitting up of warehouse windows with wire netting should also be made compulsory.

(3) For the control of *Earias insulana*, it is necessary to top the stems the moment they begin to wilt in consequence of caterpillar attack, and the infested flowers and bolls collected. Bolls infested by the caterpillar of the *Heliothis* should also be gathered.

(4) As regards the control of *Agriotes lineatus*, further experiments with poisoned seed bait and insecticidal substances are necessary. These experiments will be carried out in the field during the current year.

SWITZERLAND.

Progress of the Colorado Beetle, *Leptinotarsa decemlineata*, in the Country *

Situation on July, 1942.

During the month of June, 1942, the Colorado beetle invasion acquired considerable proportions. Favoured by warm and sunny weather broken by a few stormy periods, the insects developed appreciably and were found in practically all the regions of French Swirzerland and the greater part of German Switzerland.

The extent of the spread of this pest can be seen from the observations made and reports received from the cantonal commissaries of French Switzerland.

At Genève all the communes are more or less contaminated, but always the communes of the right bank of the lake and the Rhone and between the Rhone and the Arve are the most infested. Compared with previous years, the invasion is much more intense; in some parts plants were seen bent under the weight of larvae. The invasion, however, is very widespread and larval foci can no longer be distinguished.

In the Vaud canton, the reports of discovery of Colorado beetles, retarded by farm work, arrived in large numbers during the second fortnight of June, particularly after the compulsory visits to the fields by school children. At present, 216 communes have reported discoveries, as against 128 on July 2, 1941. The zones of severe infestation are, as in every year, the Pied du Jura, the Orbe Plain, middle and lower Broye, part of the Avenches district and the Rhone Plain. The strong storm winds which blew between June 22 and 25 again brought quantities of insects from France along the Jura and chiefly in the Joux Valley.

At Fribourg, the weekly reports well show the progressive spread of the insect, which increased from 232 foci in 14 communes on June 3 to 2271 foci in 74 communes on July 1. All the districts are more or less contaminated, but the points most attacked are the communes of Cheyres and Dompierre in the Broye, Ried and Chiètres towards the lake and Boesingen in the Singine district. Among the more outlying localities where foci were reported, particular mention should be made of Granvillard and Albeuve above Gruyère, Bellegarde at the bottom of the Jogne Valley and Attalens near Châtel-Saint-Denis.

In the canton of Neuchâtel, 46 communes have been reported as attacked. In the Bas region, only the commune of Cortaillod has widespread infestation, the others are still able to control the foci; but these are considerable around Bevaix, Cressier, Boudry and Bôle. The Val de Travers is completely infested, especially at Saint Sulpice and Verrières; in the Val de Ruz, the Dombresson region is the most attacked. The districts of Haut, Chaux-de-Fonds and Le Locle only mention a few isolated foci.

* Comunication from the Federal Experiment and Seed-testing Station, Lausanne (Mont Calme), Switzerland.

In the Bernese Jura, on July 1, 82 communes were reported affected. The invasion is particularly severe in the Delemont district, in the plain and in the environs of Porrentruy.

Finally, at Valais, up to June 30, 117 foci in 14 communes were reported. Most of the communes attacked are in the Rhone Plain, in the districts of Monthey and Saint Maurice; however, a focus has been reported at Bramois above Sion, one at Sierre, one at Gampel and another at Rarogne. Following the discovery of an adult female insect at Bovernier on the side of Valettes, scouting was ordered in the valley between Martigny and Sembrancher, but no other insect was found in this region. Another adult was discovered at Champery and scoutings are in course along the Val-d'Illiez.

* * *

It is seen from the above that the insect is very widespread a little everywhere and that, considering the area invaded, infestation appears to be more serious than in previous years. Despite this, the general impression is that the Colorado beetle invasion is less severe than previously. This is due in part to the fact that everyone hastens to report all appearances of the insect and that inspection is brisker; but chiefly because the invasion, particularly in the badly infested zones, is much more scattered, the adults and larvae generally being found dispersed over a wide area, isolated or in small groups on plants more or less distant from each other. It is thus rare, despite the severe invasion, to see fields heavily damaged by the Colorado beetle. Mainly the weakly, late plants, smaller than the others, are the most subject to attack by larvae, which the vigorously growing plants to a large extent escape.

Eggs and small larvae could already be found at the end of May, but egg-laying only increased at the beginning of June and the larvae only appeared in a large number towards the middle of the month. It seems that heavy rainstorms accompanied by hail in the middle of June, in some parts, destroyed many of the very small larvae, as certain fields where egg-laying was abundant, subsequently were not much infested. The heat, however, favoured the development of the larva as on June 18, we already found some larvae in the 4th stage, and at the end of the month adults, eggs and larvae of all ages could be seen on plants. At this period, many of the large larvae, which had escaped treatment, had already burrowed underground to change into nymphs.

School scoutings were organized in many regions from June 19 onwards; in some communes they will be continued up to July 10. These visits to potato fields by school children have been found to be more and more indispensable; they are the only means of discovering the Colorado beetles in every recess, releasing the too busy farmers for other work.

The first compulsory treatments were decreed at Genève from June 15, in the other cantons between June 22 and July 4. The first spraying should be finished somewhat everywhere. They were effected, as in 1941, in patches, namely within a radius of 15-20 m. about the foci, according to the evidence of the Colorado beetle Services; in badly infested regions, a general treatment had

to be carried out. Arsenic treatments have given excellent results. According to the stocks in hand, diplumbic arsenate or calcium arsenate was employed. It was only when the treatment of potato blight (*Phytophthora infestans*) coincided with that against the Colorado beetle that the combined treatment with Bordeaux mixture was applied. Non-toxic dusts are being increasingly used for small plots and gardens.

Although control operations were favoured by fine weather, many adult insects and numerous egg masses will have escaped the poison, and the larvae already in the ground will shortly give rise to new adults. Therefore, inspection of the fields will have to be continued and preparation made for the second treatments which will have to be carried out at the end of July or the beginning of August.

LEGISLATIVE AND ADMINISTRATIVE MEASURES

French Africa. — By Decree of the Chief of the French State dated August 26, 1942, with a view to organizing in French Africa protection against locust invasion and the consequent danger of their swarming and migration towards the colonies of this and the bordering countries, a locust control Office, attached to the economics department, has been instituted within the High Commissionership of French Africa.

This Office comprises, besides a central bureau with headquarters at Dakar, inspection stations for outbreak centres.

The head of the locust control Office is designated by the High Commissioner of French Africa on the recommendation of the Committee for biological locust research. He is charged with assuring the working of the Office, he proposes all measures to be taken or instruction to be given as regards putting into operation or improving means of locust control. With a view to ensuring effectual collaboration with the organizations concerned of the department: technical branch of tropical agriculture and the science division and with the Committee for biological locust research, he may be sent yearly on mission to them by the High Commissioner of French Africa. The duties of the head of the locust control Office will, in general, come within the agricultural technical and scientific departments for the colonies. He is assisted by a deputy chosen from among the assistants or laboratory chiefs of the agricultural and scientific departments for the colonies. This deputy assures the working of the Office in the absence of his chief.

The inspection stations for outbreak centres are charged with the control of locusts by the destruction of swarms in formation in their breeding places. They also carry out all useful research and observations on the biology of locusts and on the means of controlling these insects, in conformity with the instructions given them by the head of the locust control Office. These stations are organized by Decree of the High Commissioner of French Africa, approved by the Secretary of State to the Colonies, after recommendation by the Committee

for biological locust research. The technical personnel of the stations is composed of specially trained officers. At each station there are a station chief and district chiefs.

All the local services: general administration, agriculture, animal husbandry, forestry, etc. continue to be charged with the observation, report and destruction of locust swarms threatening or directly attacking crops. (*Journal officiel de l'Etat français*, Vichy, 9 septembre 1942, LXXIV^{ème} année, n^{o} 216, p. 3088).

Germany. — The Government General, which comprises the greater part of former Poland, having been recognized as territory with an autonomous customs régime, a Decree dated January 17, 1942 gives, *inter alia*, a list of the commodities the importation of which into the aforesaid territory is prohibited. This list contains, for phytosanitary reasons, also: (1) young trees and shrubs including cuttings, etc.; (2) rooted ornamental plants, including bulbs, rhizomes, etc.; (3) peas, haricot beans, lentils, vetches and beans. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1 September 1942, Bd. XIV, Nr. 4, S. 92-96).

*** A Circular of August 3, 1942 establishes that readily volatile nitriles are to be put on the same footing as readily volatile hydrocyanic acid compounds. Their use, therefore, is only authorized if the special provisions introduced on their account, for example, by the Decree of February 2, 1941 regarding the utilization of the preparation ' Tritox ' [see this *Bulletin* 1941, No. 5, p. 95]. (*Ibid.*, S. 87).

*** A Circular dated August 17, 1942 authorizes the customs offices to allow, as a temporary measure for the duration of the hostilities, the importation of potatoes, without phytosanitary inspection for the presence of wart disease [*Synchytrium endobioticum*] and without the presentation of certificates of health and origin provided that the quantity does not exceed 2.5 kg., dispatched by post and sent as a present to a foreigner working in Germany. (*Ibid.*, S. 86).

Germany (Protectorate of Bohemia and Moravia). — Ministerial Notification No. 338 of March 21, 1942 contains the list of preparations intended for use in the control of plant diseases and pests which, by virtue of Decree No. 89 dated December 5, 1940 [see this *Bulletin* 1941, Nos. 7-8, p. 142] may be marketed without a special permit. (*Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin, Anfang September 1942, 22. Jahrg., Nr. 9, S. 62).

*** A Ministerial Notification of May 13, 1942 contains a list of the preparations authorized for the disinfection of cereal seed, made compulsory by Notification dated March 26, 1942 [see this *Bulletin* 1942, No. 10, p. 142]. (*Ibid.*).

*** The Ministerial Notification No. 496 of May 30, 1942 abrogating that dated September 2, 1941 [see this *Bulletin* 1942 No. 4, p. 56] contains further

provisions regarding the chemical composition of certain preparations intended for use in plant protection. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. September 1942; Bd. XIV, Nr. 4, S. 99).

*** Ministerial Notification No. 300 (Chem. 55) of July 16, 1942 specifies that copper preparations containing less than 7 per cent. copper, are not subject to the provisions of the Ministerial Notification No. 233 (Chem. 33) dated January 6, 1942 [see this *Bulletin*, 1942, No. 4 p. 56]. (*Ibid.*).

*** Government Ordinance No. 292 of July 21, 1942 authorizes the proprietors and cultivators of land, as well as their representatives, to destroy sparrows (*Passer domesticus* and *P. montanus*) throughout the year, provided that the land in question is in direct communication with buildings and enclosed in some manner. (*Ibid.*, S. 98-99).

Belgium. — By Decree of August 21, 1942 every proprietor of elms giving visible or otherwise sufficiently known signs of attack by the Dutch elm disease (*Graphium ulmi*) is obliged, whatever the position, to fell or cause them to be felled and barked without delay and, at the latest, within fifteen days from the order which will be given him by the Forestry Service.

In default of these instructions being followed within the aforesaid period allowed, the administration of Woods and Forests will be justified in virtue of its office in proceeding to the execution of the measures contemplated and to the confiscation of the trees affected.

In the case of the proceeds of the sale of the diseased trees not being sufficient to cover the cost of felling, the proprietor will also be required to settle, within a month, the difference to the registrar at the public record and registry bureau. (*Moniteur belge*, Bruxelles, 27 septembre 1942, nº 270, p. 5896-5897).

France. — By Decree of August 20, 1942, the Laboratory of Faunology attached to the National School of Agriculture at Montpellier is qualified, from August 1, 1942, to determine the identification of plant samples taken under the conditions laid down by Decree of July 22, 1942 relative to the phytosanitary police powers of the officers of the Plant Protection Service. (*Journal officiel de l'Etat français*, Vichy, 9 octobre 1942, LXXIV^{ème} année, nº 242, p. 3421).

Italy. — A Ministerial Decree of September 25, 1942 authorizes the hunting and capture of the wild rabbit, declared a pest in the territory of Aosta Province. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 8 ottobre 1942, anno 83º, n. 237, p. 4168).

Portugal. — ' Portaria' No. 10: 068 dated April 14, 1942 specifies that the copper sulphate and other copper fungicides required for the treatment of vines in the Azores Archipelago will be delivered by the regulative Commission for chemical products to the agricultural associations of the municipalities concern-

ed, in the quantities determined by the national Wine Junta and in the manner established by ' Portaria ' No. 10:054 [see this *Bulletin* 1942, No. 9, p. 124]. (*Diário do Govêrno*, Lisboa, 14 de abril de 1942, I Série, núm. 85, pag. [323]).

Switzerland. — Under the date September 23, 1942 have been published the instructions of the pharmaceutical and chemical products Branch of the War Office for the industry and work on the control of production of and trade in sulphur and carbon disulphide. (*Recueil des Lois fédérales*, Berne, 24 septembre 1942, nº 45, p. 892-894).

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